

(FILE 'HOME' ENTERED AT 10:38:49 ON 20 APR 2007).

FILE 'CAPLUS' ENTERED AT 10:38:57 ON 20 APR 2007

FILE 'REGISTRY' ENTERED AT 10:39:08 ON 20 APR 2007

L1 1 S ACETALDEHYDE/CN  
L2 1 S METHYL IODIDE/CN

FILE 'CAPLUS' ENTERED AT 10:40:37 ON 20 APR 2007

S 75-07-0/REG# AND 74-88-4/REG#

FILE 'REGISTRY' ENTERED AT 10:41:18 ON 20 APR 2007

L3 1 S 74-88-4/RN

FILE 'CAPLUS' ENTERED AT 10:41:18 ON 20 APR 2007

L4 20289 S L3

FILE 'REGISTRY' ENTERED AT 10:41:19 ON 20 APR 2007

L5 1 S 75-07-0/RN

FILE 'CAPLUS' ENTERED AT 10:41:19 ON 20 APR 2007

L6 35838 S L5  
L7 536 S L6 AND L4  
L8 9 S L7 AND ( DENSITY OR HEATING RATE OR COLUMN PRESSURE OR FEED C  
L9 4 S L8 AND PY<2004

FILE 'STNGUIDE' ENTERED AT 10:44:56 ON 20 APR 2007

FILE 'CAPLUS' ENTERED AT 10:48:02 ON 20 APR 2007

L10 5250 S 75-07-0/PREP  
L11 33 S 75-07-0/PUR  
L12 3497 S 75-07-0/PROC  
L13 8637 S L10 OR L11 OR L12  
L14 224 S L13 AND DISTIL?  
L15 12 S L14 AND ( DENSITY OR HEATING RATE OR COLUMN PRESSURE OR FEED  
L16 11 S L15 AND PY<2004

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=> d 1-11 ibib abs hitstr

L16 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:218538 CAPLUS

DOCUMENT NUMBER: 126:211821

TITLE: Method for separation and removal of acetaldehyde by distillation in manufacture of acetic acid

INVENTOR(S): Morimoto, Yoshiaki; Nakayama, Hiroyuki

PATENT ASSIGNEE(S): Daicel Chem, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	-----
JP 09040590	A	19970210	JP 1995-198290	19950803 <--
JP 3883221	B2	20070221		
JP 2006096764	A	20060413	JP 2005-335002	20051118
PRIORITY APPLN. INFO.:			JP 1995-198290	A3 19950803

AB Acetaldehyde is separated and removed from a mixture liquid containing acetaldehyde

≤5, Me acetate ≤10, acetic acid 20-50, MeI 0.1-20, and H2O 5-50 weight% by distillation using a distillation tower having ≥40 plates at reflux ratio ≥10. At least either one of the phase containing Me iodide as the main component and the phase containing H2O

as the main component is refluxed to said distillation tower while maintaining the liquid fractionation state of the liquid distilled at the distillation tower.

This process efficiently separates acetaldehyde and MeI from a mixture liquid containing acetaldehyde, MeI, Me acetate, and acetic acid and is suitable for purification of acetic acid obtained by carbonylation of methanol.

IT 75-07-0, Acetaldehyde, processes

RL: REM (Removal or disposal); PROC (Process)

(method for separation and removal of acetaldehyde by distillation in manufacture of acetic acid)

RN 75-07-0 CAPLUS

CN Acetaldehyde (CA INDEX NAME)

$\text{H}_3\text{C}-\text{CH}=\text{O}$

L16 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:86875 CAPLUS

DOCUMENT NUMBER: 106:86875

TITLE: A simple exact method for calculating tangent pinch points in multicomponent nonideal mixtures by bifurcation theory

AUTHOR(S): Levy, Sanford G.; Doherty, Michael F.

CORPORATE SOURCE: Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA

SOURCE: Chemical Engineering Science (1986), 41(12), 3155-60

CODEN: CESCAC; ISSN: 0009-2509

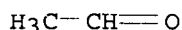
DOCUMENT TYPE: Journal

LANGUAGE: English

AB The tangent pinch problem for multicomponent systems was studied. The

notion of a binary tangent pinch logically extends to the multicomponent case. A bifurcation anal. provides further insight into the math. conditions that apply at a tangent pinch, along with a procedure which serves to locate the min. reflux ratio under tangent pinch conditions.

IT 75-07-0P, Acetaldehyde, preparation  
RL: PREP (Preparation)  
(distillation of, tangent pinch point in, calcn. of, by bifurcation theory)  
RN 75-07-0 CAPLUS  
CN Acetaldehyde (CA INDEX NAME)



L16 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1976:476278 CAPLUS  
DOCUMENT NUMBER: 85:76278  
TITLE: A treatment of grape wine distillation heads  
AUTHOR(S): Williams, Patrick J.; Strauss, Christopher R.  
CORPORATE SOURCE: Aust. Wine Res. Inst., Glen Osmond, Australia  
SOURCE: Journal of the Science of Food and Agriculture (1976), 27(6), 487-98  
CODEN: JSFAAE; ISSN: 0022-5142

DOCUMENT TYPE: Journal

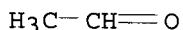
LANGUAGE: English

AB SO2 [7446-09-5], MeCHO [75-07-0], acetals, and MeCO2Et [141-78-6] were eliminated from grape wine distillation heads by inert gas sparging of the diluted and acidified heads held at reflux until an acceptable concentration of MeCHO was reached. The treated product, obtained after basification and distillation was as good as high-quality fortifying spirit. The EtOH [64-17-5] recovery of this process, designed for use in a modified pot still, is greater than that obtained by a comparable fractional distillation of heads.

IT 75-07-0, uses and miscellaneous  
RL: REM (Removal or disposal); PROC (Process)  
(removal of, from grape wine distillation heads)

RN 75-07-0 CAPLUS

CN Acetaldehyde (CA INDEX NAME)



L16 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1966:482140 CAPLUS  
DOCUMENT NUMBER: 65:82140  
ORIGINAL REFERENCE NO.: 65:15322d-f  
TITLE: Removal of acetaldehyde from ethylene oxide by extractive distillation

INVENTOR(S): Leis, Donald G.; Mills, Edward J., Jr.

PATENT ASSIGNEE(S): Union Carbide Corp.

SOURCE: 3 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3265593		19660809	US 1962-229160	19621008 <--
PRIORITY APPLN. INFO.:			US	19621008

=> d 1-11 ibib abs hitstr

L16 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:218538 CAPLUS

DOCUMENT NUMBER: 126:211821

TITLE: Method for separation and removal of acetaldehyde by distillation in manufacture of acetic acid

INVENTOR(S): Morimoto, Yoshiaki; Nakayama, Hiroyuki

PATENT ASSIGNEE(S): Daicel Chem, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09040590	A	19970210	JP 1995-198290	19950803 <--
JP 3883221	B2	20070221		
JP 2006096764	A	20060413	JP 2005-335002	20051118

PRIORITY APPLN. INFO.: JP 1995-198290 A3 19950803

AB Acetaldehyde is separated and removed from a mixture liquid containing acetaldehyde

≤5, Me acetate ≤10, acetic acid 20-50, MeI 0.1-20, and H2O

5-50 weight% by distillation using a distillation tower having ≥40 plates at reflux ratio ≥10. At least either one of the

phase containing Me iodide as the main component and the phase containing H2O

as

the main component is refluxed to said distillation tower while maintaining the liquid fractionation state of the liquid distilled at the distillation tower.

This

process efficiently separates acetaldehyde and MeI from a mixture liquid containing acetaldehyde, MeI, Me acetate, and acetic acid and is suitable for purification of acetic acid obtained by carbonylation of methanol.

IT 75-07-0, Acetaldehyde, processes

RL: REM (Removal or disposal); PROC (Process)

(method for separation and removal of acetaldehyde by distillation in manufacture of acetic acid)

RN 75-07-0 CAPLUS

CN Acetaldehyde (CA INDEX NAME)

H<sub>3</sub>C-CH=O

L16 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1987:86875 CAPLUS

DOCUMENT NUMBER: 106:86875

TITLE: A simple exact method for calculating tangent pinch points in multicomponent nonideal mixtures by bifurcation theory

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CORPORATE SOURCE: Chem. Eng. Dep., Univ. Massachusetts, Amherst, MA, 01003, USA

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CODEN: CESCAC; ISSN: 0009-2509

DOCUMENT TYPE: Journal

LANGUAGE: English

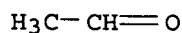
AB The tangent pinch problem for multicomponent systems was studied. The

AB Low mol. weight alcs., diols, ethers, ether-alcs., polyalkylene glycols, esters, alkyl isobutyl ketones, and alkanoxy alcs. which boil at 65-120°, which are miscible with both ethylene oxide (I) and AcH, and which are inert to I serve for the extraction of AcHO impurities from I under distillation conditions. In an example, using a distillation apparatus consisting of a kettle equipped with an Oldershaw column having 3 sections of 15 trays each, an overhead condenser, and a receiver, 580 ml./hr. of I containing 435 ppm. AcH was fed in at the 15th tray from the kettle as 116 ml./hr. MeOH was introduced at the 30th tray from the kettle. At a reflux ratio of 0.33:1, 10.5° overhead temperature, and atmospheric pressure, 89.4% of the I added was collected overhead as MeOH containing 92% of the AcH contaminant was removed from the kettle. When the I-MeOH ratio was increased to 8:1, the AcH content of the product was reduced by only 78%. Other extractants used were EtOH, Me Cellosolve, Bu Cellosolve, Me iso-Bu ketone, 2-ethylhexyl acetate, diiso-Bu ketone, and Cellosolve acetate.

IT 75-07-0P, Acetaldehyde  
 RL: PREP (Preparation)  
 (separation of, from ethylene oxide)

RN 75-07-0 CAPLUS

CN Acetaldehyde (CA INDEX NAME)



L16 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1964:66319 CAPLUS

DOCUMENT NUMBER: 60:66319

ORIGINAL REFERENCE NO.: 60:11639e-g

TITLE: Method for a continuous separation of concentrated acetic acid from an acetaldehyde oxidation reaction mixture

INVENTOR(S): Subr, Milan; Coufal, Jiri

SOURCE: 7 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

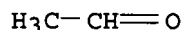
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 102869		19620315	CS	19601230 <--
PRIORITY APPLN. INFO.:			CS	19601230

AB The economy and the quality of the com. process are improved (1) by utilizing the heat of condensation of the separated concentrated HOAc to heat the boiler of one of the refluxing columns, and (2) by returning the unreacted AcH for further oxidation, and the dilute HOAc yields for further refluxing. In this method, the distillate emanating from the head of the 1st refluxing column, which is initially charged with a preheated AcH oxidation reaction mixture, is led to the 2nd refluxing column, and as a side product, vaporized concentrated HOAc is removed at a lower level of the 1st column and piped to the boiler of the 2nd refluxing column. There, it condenses, releasing heat which heats the column. The distillate from the head of the 2nd refluxing column enters the 3rd column, where it is separated into 3 fractions; the lightest, which is returned to the AcH oxidation station, the middle, which is further processed, and the HOAc fraction which is combined with the initial charge to the 1st column. The boiler residues from the 2nd column are continuously returned to the 1st column; those from the 1st column are returned, in the liquid state, to the AcH oxidation station. The concentrated (99.85% by weight) HOAc end product,

after it gives up its heat of condensation to heat the 2nd refluxing column, is further cooled and pumped into storage. The utilization of this heat of condensation enables the 2nd column to operate at a high reflux ratio, as a result of which the boiler residues from the 2nd column attain the same (or higher) HOAc concentration as that possessed by the raw acid and can be fed directly back into the 1st column. Thus, the formation of undesirable dilute HOAc is avoided and the content of harmful ethylidene diacetate is held to a min.

IT 75-07-0P, Acetaldehyde  
RL: PREP (Preparation)  
(oxidation of, distillation of product of)  
RN 75-07-0 CAPLUS  
CN Acetaldehyde (CA INDEX NAME)



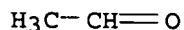
L16 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1961:136172 CAPLUS  
DOCUMENT NUMBER: 55:136172  
ORIGINAL REFERENCE NO.: 55:25600i,25601a-c  
TITLE: Microdetermination of acetals of acetaldehyde, vinyl ethers, and other compounds containing combined acetaldehyde groups  
AUTHOR(S): Bowman, Malcolm C.; Beroza, Morton; Acree, Fred, Jr.  
CORPORATE SOURCE: U.S. Dept. of Agr., Orlando, FL  
SOURCE: Anal. Chem. (1961), 33, 1053-5  
CODEN: ANCHAM; ISSN: 0003-2700  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

AB A microdetn. of Sesamex or other compds. that yield Ach upon acid hydrolysis was developed. The hydrolysis apparatus was the all-glass assembly described by Giang and Smith (CA 50, 16027c), which permits reflux and subsequent distillation without interrupting to transfer material. CHCl<sub>3</sub> solns. of samples were obtained by diluting 200 µl. of each to 50 ml. in volumetric flasks. After calculating the wts. of samples in solution from volume

and d., each solution was further diluted, with CHCl<sub>3</sub>, to contain 100-200 γ of combined acetaldehyde/ml. For analysis, 1- and 2-ml. aliquots were hydrolyzed by refluxing with 10% H<sub>2</sub>SO<sub>4</sub> for 15 min., followed by distillation into 5 ml. of freshly prepared 2% NaHSO<sub>3</sub>. The CHCl<sub>3</sub> was separated, then extracted with 3 10-ml. portions of cold H<sub>2</sub>O. Exts. were combined with the original aqueous distillate, and diluted to 50 ml. A 1-ml. aliquot was mixed with 8 ml. cold H<sub>2</sub>SO<sub>4</sub>-CuSO<sub>4</sub> reagent and 0.2 ml. p-phenylphenol reagent (loc. cit.). The tubes were aged 1 hr. in the dark, heated in a 100° water bath for 90 sec., brought to room temperature, then read at 572 mµ. A standard curve was prepared by analyzing known solns. of metaldehyde. One γ of acetaldehyde produced an absorbance of about 0.150.

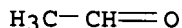
IT 75-07-0P, Acetaldehyde  
RL: PREP (Preparation)  
(acetals, determination of, and determination of compds. yielding Ach)  
RN 75-07-0 CAPLUS  
CN Acetaldehyde (CA INDEX NAME)



L16 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1952:29719 CAPLUS  
DOCUMENT NUMBER: 46:29719  
ORIGINAL REFERENCE NO.: 46:5074e-f  
TITLE: Treatment of oxidation products  
INVENTOR(S): Dice, Henry K.; Mitchell, Robert L.  
PATENT ASSIGNEE(S): Celanese Corp. of America  
DOCUMENT TYPE: Patent  
LANGUAGE: Unavailable  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	US 2570217		19511009	US 1949-125834	19491105 <--
AB	In the concentration and isolation of products of the partial oxidation of aliphatic hydrocarbons, improved yields of the desired simple compds. are obtained by buffering the aqueous solns. of the crude products to inhibit acetal formation, oxide hydrolysis, Cannizzaro and aldol reactions, and esterification. In each of 3 distns. of the CH <sub>2</sub> O-rich aqueous solution, a buffer solution such as aqueous NaOAc is introduced with the reflux to maintain a distillate pH of about 5. The gases flashed off from the aqueous solution during quenching are collected in water and the new solution fractionated with a similar continuous addition of buffer to maintain a pH of 5-6 during the AcH and acrolein cuts. Cf. preceding abstract				
IT	75-07-0P, Acetaldehyde RL: PREP (Preparation) (recovery from hydrocarbon oxidation products)				
RN	75-07-0 CAPLUS				
CN	Acetaldehyde (CA INDEX NAME)				



L16 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1950:16751 CAPLUS  
DOCUMENT NUMBER: 44:16751  
ORIGINAL REFERENCE NO.: 44:3307e-g  
TITLE: A correlation of plate efficiencies in fractionating columns  
AUTHOR(S): Williams, G. C.; Stigger, E. K.; Nichols, J. H.  
CORPORATE SOURCE: Univ. of Louisville, Louisville, KY  
SOURCE: Chem. Eng. Progress (1950), 46(No. 1), 7-16  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable  
AB This report presents data, observations, and conclusions on the over-all efficiencies of a bubble-cap rectification column when operated with 8 different binary distillation systems. Combinations were as follows: (1) EtOH-H<sub>2</sub>O, (2) MeOH-H<sub>2</sub>O, (3) benzene-toluene, (4) benzene-CCl<sub>4</sub>, (5) acetaldehyde-water, (6), acetone-water, (7) MeEtCO-H<sub>2</sub>O, (8) toluene-pentane. Agreement of the correlation and the data varied with the system and conditions of the test. Low reflux ratios (up to 1.5) produced values in fair agreement, but high reflux ratios and (or) stripping sections varied over a wider range.  
IT 75-07-0P, Acetaldehyde  
RL: PREP (Preparation)  
(distillation apparatus for)  
RN 75-07-0 CAPLUS  
CN Acetaldehyde (CA INDEX NAME)



L16 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1948:44440 CAPLUS  
 DOCUMENT NUMBER: 42:44440  
 ORIGINAL REFERENCE NO.: 42:9244i,9245a-b  
 TITLE: Condensation products of aldehydes with wood-distillation products containing aryloxy compounds  
 INVENTOR(S): Fodor, Miklos  
 PATENT ASSIGNEE(S): Textilvegyipar Kft.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Unavailable  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	HU 128789		19411215	HU	<--
AB	(1) Crude wood tar (100 kg.), 60 kg. 40% formaldehyde, 10 kg. paraformaldehyde, and 4 kg. concentrated HCl are heated until a sample dropped into cold water becomes rigid. The mixture is cooled, and the solid residue separated, treated with steam for several hrs., and dried to give a brown transparent mass, which can be condensed with hexamethylenetetramine or other base that decomps. to formaldehyde only in presence of catalysts. (2) Crude wood tar (100 kg.) is treated with ammonia until it is alkaline to turmeric, 60 kg. 40% formaldehyde and 15 kg. paraformaldehyde are added, and the mixture is boiled under a reflux condenser until a sample dropped into cold water becomes rigid. The mixture is cooled, the solid residue is separated, and uncondensed substances are removed by treatment with benzene or gasoline. Instead of formaldehyde other aldehydes, as acetaldehyde, furfural, instead of paraformaldehyde other polymerized aldehydes, and instead of acid or alkaline catalysts other known catalyst for phenol-aldehyde condensations may be used.				
IT	75-07-0P, Acetaldehyde RL: PREP (Preparation) (condensation products or polymers of, with wood-distillation products)				
RN	75-07-0 CAPLUS				
CN	Acetaldehyde (CA INDEX NAME)				



L16 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1948:2678 CAPLUS  
 DOCUMENT NUMBER: 42:2678  
 ORIGINAL REFERENCE NO.: 42:587i,588a-e  
 TITLE: Acetic anhydride  
 INVENTOR(S): Hall, Reginald H.; Tuerck, Karl H. W.  
 PATENT ASSIGNEE(S): Distillers Co., Ltd.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Unavailable  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	GB 589940		19470703	GB 1945-8314	19450404 <--
AB	A process for the recovery of Ac2O (I) free of water and substantially free of per compds. in yields greater than 90% from the reaction mixture				

obtained by the liquid-phase oxidation of AcH (II) with O<sub>2</sub>, containing in addition to I catalysts, AcOH, acid, water, II, and per compds., by continuously feeding the reaction mixture into the middle of a packed column and effecting fractional distillation therein at pressures of 80-200 mm. and at reflux ratios of between 1/1 and 3/1, at the same time maintaining the liquid at the base of the column above 70°, and withdrawing the concentrated I from the kettle. The volume of the kettle should be sufficient

to

bring about substantially complete (less than 0.1% remaining) decomposition of the per compds. The process prevents loss of II which occurs at low distillation pressures, and requires a smaller condenser surface. Packing holdup should be less than 10%. The effect of various reaction conditions are shown as follows: Run Number, Column pressure mm., Kettle temperature °, Yield of anhydride %, AcOH in kettle liquid %, Time to reduce per compds. to less than 0.1% hrs.; 1, 25, 48, 94, 38, at least 55; 2, 25, 54, 98, 15, 55; 3, 80, 75, 96.3, 6, 0.66; 4, 150, 86, 94.8, 17, 0.079; 5, 150, 79, 87.4, 45.6, ....; 6, 250, 95, 87.4, 26, 0.016; For example, a reaction product from the oxidation of II, containing I 34.9, AcOH 50.7, H<sub>2</sub>O 8.0, II 4.3, AcOME 0.9, a Co and Cu acetate mixture 0.5, and per compds. 0.7% was fractionated at 150-160 mm., in a packed column having 13 theoretical plates and equipped with a kettle. The feed was introduced at the 6th plate from the bottom of the column. The vapor velocity in the column was about 80 cm./sec., the reflux ratio 3:1, and the surface of the packing per theoretical plate 0.12 sq. m. The kettle temperature was 83°, the temperature at the feed point 68°, and the temperature at the top of the column 61°. The liquid in the kettle contained I 85.2%, AcOH 14.8, and per compds. 0.0025%. The recovery of I was 94%. The distillate contained AcOH 76.5, II 6.2, and MeOH 2.0%, the residue being H<sub>2</sub>O. The concentrated anhydrous I may be withdrawn

either

in the liquid or vapor state and fractionated in a 2nd still. Contains 2 examples.

IT 75-07-0P, Acetaldehyde

RL: PREP (Preparation)

(oxidation of, Ac<sub>2</sub>O recovery from)

RN 75-07-0 CAPLUS

CN Acetaldehyde (CA INDEX NAME)

H<sub>3</sub>C-CH=O

L16 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1919:721 CAPLUS

DOCUMENT NUMBER: 13:721

ORIGINAL REFERENCE NO.: 13:134a-d

TITLE: Alcohols, esters

PATENT ASSIGNEE(S): du Pont de Nemours & Co.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

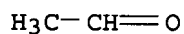
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
	GB 119249		19181003	GB 1917-8259	19170609 <--
AB	Alcs. are prepared by reacting with a halogen hydrocarbon on a salt of a higher fatty acid, e. g., Na stearate, and saponifying the resulting ester. A suitable apparatus is specified. The reaction vessel, e. g., is half filled with stearic acid, the equivalent of solid NaOH is added, the mixture is heated by an oil jacket to 200-40°, and a mixture of pentyl and hexyl chlorides is run in from a suitable vessel. Unchanged chlorides, and olefins produced as by-products, distil over to condenser and				

receptacle. The reaction vessel is then cooled to 150°, NaOH is added, and the vessel again heated to saponify the esters. The resulting alcs. are distilled off in steam, and the process is repeated until the stearate in the reaction vessel has become highly charged with salt. Then the mixture is removed, acidified, warmed, and the stearic acid decanted off, and washed for re-use. In a modified construction of apparatus, a reflux condenser is provided to return unchanged chlorides to the reaction vessel, while only the olefins pass off to the condenser.

IT 75-07-0P, Acetaldehyde  
RL: PREP (Preparation)  
(ethyl alc. preparation from)  
RN 75-07-0 CAPLUS  
CN Acetaldehyde (CA INDEX NAME)



## Refine Search

### Search Results -

Terms	Documents
L5 and (562/\$ or 568/\$)	56

Database:

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 US Patents Full-Text Database  
 US OCR Full-Text Database  
 EPO Abstracts Database  
 JPO Abstracts Database  
 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

Search:

L6





### Search History

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<u>Set</u> <u>Name</u> side by side	<u>Query</u>	<u>Hit</u> <u>Count</u>	<u>Set</u> <u>Name</u> result set
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i>			
<u>L6</u>	L5 and (562/\$ or 568/\$)	56	<u>L6</u>
<u>L5</u>	L4 and (density or concentra\$8 or heat\$5 rate or column pressure or feed comp\$9 or reflux or reflux ratio)	208	<u>L5</u>
<u>L4</u>	L3 and distil\$9	223	<u>L4</u>
<u>L3</u>	acetaldehyde same methyl iodide	308	<u>L3</u>
<u>L2</u>	acetaldehyde and methyl iodide	2530	<u>L2</u>
<i>DB=USPT; PLUR=YES; OP=ADJ</i>			
<u>L1</u>	acetaldehyde.ti.	219	<u>L1</u>

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File: PGPB

Dec 28, 2006

PGPUB-DOCUMENT-NUMBER: 20060293537

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060293537 A1

TITLE: Control method for process of removing permanganate reducing compounds from methanol carbonylation process

PUBLICATION-DATE: December 28, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Trueba; David A.	Webster	TX	US
Kulkarni; Shrikant	Houston	TX	US

US-CL-CURRENT: 562/519

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D.
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☐ 2. Document ID: US 20060247466 A1

L6: Entry 2 of 56

File: PGPB

Nov 2, 2006

PGPUB-DOCUMENT-NUMBER: 20060247466

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060247466 A1

TITLE: Process for the production of acetic acid

PUBLICATION-DATE: November 2, 2006

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Zinobile; Raymond J.	Houston	TX	US
Scates; Mark O.	Houston	TX	US
Makelki; Jonathan A.	Bay City	TX	US
Salado; Manuel	Seabrook	TX	US

US-CL-CURRENT: 562/517; 568/492

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. D
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☐ 3. Document ID: US 20060178528 A1

L6: Entry 3 of 56

File: PGPB

Aug 10, 2006

PGPUB-DOCUMENT-NUMBER: 20060178528

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060178528 A1

TITLE: Method of controlling acetic acid process

PUBLICATION-DATE: August 10, 2006

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Cawood; James M. JR.	Houston	TX	US
Kulkarni; Shrikant U.	Houston	TX	US
Liu; Lun-Kuang	Houston	TX	US

US-CL-CURRENT: 562/519

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. D
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☐ 4. Document ID: US 20060011462 A1

L6: Entry 4 of 56

File: PGPB

Jan 19, 2006

PGPUB-DOCUMENT-NUMBER: 20060011462

PGPUB-FILING-TYPE:

DOCUMENT-IDENTIFIER: US 20060011462 A1

TITLE: Process for producing carboxylic acid and system for producing the same

PUBLICATION-DATE: January 19, 2006

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Horiguchi; Akira	Osaka		JP
Ina; Tomohide	Hyogo		JP
Miura; Hiroyuki	Hyogo		JP

US-CL-CURRENT: 203/29; 202/153, 202/154, 202/155, 203/60, 203/74, 562/6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. D
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☐ 5. Document ID: US 20050209483 A1

L6: Entry 5 of 56

File: PGPB

Sep 22, 2005

PGPUB-DOCUMENT-NUMBER: 20050209483  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20050209483 A1

TITLE: Utilization of acetic acid reaction heat in other process plants

PUBLICATION-DATE: September 22, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Bhaskaran, Subramanian	Singapore		SG
Sekar, Angadu Krishnamoorthy A.K	Singapore		SG

US-CL-CURRENT: 560/241; 562/519.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	K/MC	Draw. D.
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☐ 6. Document ID: US 20050197513 A1

L6: Entry 6 of 56

File: PGPB

Sep 8, 2005

PGPUB-DOCUMENT-NUMBER: 20050197513  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20050197513 A1

TITLE: CONTROL METHOD FOR PROCESS OF REMOVING PERMANGANATE REDUCING COMPOUNDS FROM METHANOL CARBONYLATION PROCESS

PUBLICATION-DATE: September 8, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Trueba, David A.	Webster	TX	US
Kulkarni, Shrikant	Houston	TX	US

US-CL-CURRENT: 568/492

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	K/MC	Draw. D.
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☐ 7. Document ID: US 20050197509 A1

L6: Entry 7 of 56

File: PGPB

Sep 8, 2005

PGPUB-DOCUMENT-NUMBER: 20050197509  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20050197509 A1

TITLE: REMOVAL OF PERMANGANATE REDUCING COMPOUNDS FROM METHANOL CARBONYLATION PROCESS STREAM

PUBLICATION-DATE: September 8, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Picard, Wayne D.	Houston	TX	US
Talancon, Jose J. Arturo	Col. Heroes de Churubusco	TX	MX
Trueba, David A.	Webster	TX	US
Scates, Mark O.	Houston	TX	US
Zinobile, Raymond J.	Houston		US

US-CL-CURRENT: 562/608

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. D
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☐ 8. Document ID: US 20050197508 A1

L6: Entry 8 of 56

File: PGPB

Sep 8, 2005

PGPUB-DOCUMENT-NUMBER: 20050197508

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050197508 A1

TITLE: REMOVAL OF PERMANGANATE REDUCING COMPOUNDS FROM METHANOL CARBONYLATION  
PROCESS STREAM

PUBLICATION-DATE: September 8, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Scates, Mark O.	Houston	TX	US
Trueba, David A.	Webster	TX	US
Zinobile, Raymond J.	Houston	TX	US

US-CL-CURRENT: 562/608

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. D
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☐ 9. Document ID: US 20050197506 A1

L6: Entry 9 of 56

File: PGPB

Sep 8, 2005

PGPUB-DOCUMENT-NUMBER: 20050197506

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050197506 A1

TITLE: Process for Producing Acetic Acid

PUBLICATION-DATE: September 8, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Scates, Mark O.	Houston	TX	US
Trueba, David A.	Webster	TX	US

US-CL-CURRENT: 562/519; 562/608

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 10. Document ID: US 20050154228 A1

L6: Entry 10 of 56

File: PGPB

Jul 14, 2005

PGPUB-DOCUMENT-NUMBER: 20050154228

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050154228 A1

TITLE: Method and apparatus for controlling feed of gaseous reaction component

PUBLICATION-DATE: July 14, 2005

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Nakajima, Hidehiko	Himeji-shi, Hyogo		JP
Harano, Yoshiyuki	Ako-gun Hyogo		JP
Yamada, Manabu	Himeji-shi Hyogo		JP

US-CL-CURRENT: 562/519; 422/187

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 11. Document ID: US 20040122257 A1

L6: Entry 11 of 56

File: PGPB

Jun 24, 2004

PGPUB-DOCUMENT-NUMBER: 20040122257

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040122257 A1

TITLE: Low water methanol carbonylation process for high acetic acid production and for water balance control

PUBLICATION-DATE: June 24, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Cheung, Hosea	Corpus Christi	TX	US
Huckman, Michael E.	Corpus Christi	TX	US
Torrence, G. Paull	League City	TX	US

US-CL-CURRENT: 562/519

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw D
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☐ 12. Document ID: US 20030199711 A1

L6: Entry 12 of 56

File: PGPB

Oct 23, 2003

PGPUB-DOCUMENT-NUMBER: 20030199711

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030199711 A1

TITLE: Oxidation treatment of a recycle stream in production of acetic acid by methanol carbonylation

PUBLICATION-DATE: October 23, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Broussard, Jerry A.	Marietta	GA	US
Cheung, Hung-Cheun	Corpus Christi	TX	US
Houliston, Stephen Andrew	Ottumwa	IA	US
Huckman, Michael E.	Corpus Christi	TX	US

McKarns MacAtangay, Peggy	Corpus Christi	TX	US
Singh, Madan	Corpus Christi	TX	US
Karnilaw, Michael L.	Houston	TX	US
Torrence, G.Paull	Corpus Christi	TX	US

US-CL-CURRENT: 562/519

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 13. Document ID: US 20030130238 A1

L6: Entry 13 of 56

File: PGPB

Jul 10, 2003

PGPUB-DOCUMENT-NUMBER: 20030130238  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030130238 A1

TITLE: Allenic aryl sulfonamide hydroxamic acids as matrix metalloproteinase and tace inhibitors

PUBLICATION-DATE: July 10, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Sandanayaka, Vincent Premaratna	Northboro	MA	US
Delos Santos, Efren Guillermo	Nanuet	NY	US

US-CL-CURRENT: 514/114; 514/217.12, 514/357, 514/408, 514/575, 540/609, 546/336, 548/566, 558/166, 562/623

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 14. Document ID: US 20020151746 A1

L6: Entry 14 of 56

File: PGPB

Oct 17, 2002

PGPUB-DOCUMENT-NUMBER: 20020151746  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20020151746 A1

TITLE: Low energy carbonylation process

PUBLICATION-DATE: October 17, 2002

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Scates, Mark O.	Friendswood	TX	US
Blay, George A.	Corpus Christi	TX	US
Torrence, G. Paull	Corpus Christi	TX	US
Broussard, Jerry A.	Corpus Christi	TX	US

US-CL-CURRENT: 562/519

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw. De
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☐ 15. Document ID: US 7196227 B2

L6: Entry 15 of 56

File: USPT

Mar 27, 2007

US-PAT-NO: 7196227

DOCUMENT-IDENTIFIER: US 7196227 B2

TITLE: Process for the recovery of phosphorus and iodine containing catalyst components

PRIOR-PUBLICATION:

DOC-ID

DATE

US 20040163840 A1

August 26, 2004

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw. De
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☐ 16. Document ID: US 7005541 B2

L6: Entry 16 of 56

File: USPT

Feb 28, 2006

US-PAT-NO: 7005541

DOCUMENT-IDENTIFIER: US 7005541 B2

TITLE: Low water methanol carbonylation process for high acetic acid production and for water balance control

PRIOR-PUBLICATION:

DOC-ID

DATE

US 20040122257 A1

June 24, 2004

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw. De
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☐ 17. Document ID: US 6667418 B2

L6: Entry 17 of 56

File: USPT

Dec 23, 2003

US-PAT-NO: 6667418

DOCUMENT-IDENTIFIER: US 6667418 B2

TITLE: Oxidation treatment of a recycle stream in production of acetic acid by methanol carbonylation

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KMOC	Draw. De
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☐ 18. Document ID: US 6657078 B2

L6: Entry 18 of 56

File: USPT

Dec 2, 2003

US-PAT-NO: 6657078

DOCUMENT-IDENTIFIER: US 6657078 B2

TITLE: Low energy carbonylation process

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw D
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☐ 19. Document ID: US 6573403 B1

L6: Entry 19 of 56

File: USPT

Jun 3, 2003

US-PAT-NO: 6573403

DOCUMENT-IDENTIFIER: US 6573403 B1

TITLE: Process for production of acetic acid

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw D
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☐ 20. Document ID: US 6552221 B1

L6: Entry 20 of 56

File: USPT

Apr 22, 2003

US-PAT-NO: 6552221

DOCUMENT-IDENTIFIER: US 6552221 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Process control for acetic acid manufacture

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	KWIC	Draw D
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Search Results - Record(s) 21 through 30 of 56 returned.

☐ 21. Document ID: US 6346645 B1

L6: Entry 21 of 56

File: USPT

Feb 12, 2002

US-PAT-NO: 6346645

DOCUMENT-IDENTIFIER: US 6346645 B1

TITLE: Adsorptive removal of carbonyl impurities from oxygenated organic liquids

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstracts	Attachments	Claims	KWIC	Draw D
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☐ 22. Document ID: US 6339171 B1

L6: Entry 22 of 56

File: USPT

Jan 15, 2002

US-PAT-NO: 6339171

DOCUMENT-IDENTIFIER: US 6339171 B1

TITLE: Removal or reduction of permanganate reducing compounds and alkyl iodides from a carbonylation process stream

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstracts	Attachments	Claims	KWIC	Draw D
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☐ 23. Document ID: US 6323364 B1

L6: Entry 23 of 56

File: USPT

Nov 27, 2001

US-PAT-NO: 6323364

DOCUMENT-IDENTIFIER: US 6323364 B1

TITLE: Rhodium/inorganic iodide catalyst system for methanol carbonylation process with improved impurity profile

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstracts	Attachments	Claims	KWIC	Draw D
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☐ 24. Document ID: US 6251256 B1

L6: Entry 24 of 56

File: USPT

Jun 26, 2001

US-PAT-NO: 6251256

DOCUMENT-IDENTIFIER: US 6251256 B1

TITLE: Process for electrochemical oxidation of an aldehyde to an ester

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 25. Document ID: US 6211405 B1

L6: Entry 25 of 56

File: USPT

Apr 3, 2001

US-PAT-NO: 6211405

DOCUMENT-IDENTIFIER: US 6211405 B1

TITLE: Addition of iridium to the rhodium/inorganic iodide catalyst system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 26. Document ID: US 6143930 A

L6: Entry 26 of 56

File: USPT

Nov 7, 2000

US-PAT-NO: 6143930

DOCUMENT-IDENTIFIER: US 6143930 A

TITLE: Removal of permanganate reducing compounds and alkyl iodides from a carbonylation process stream

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 27. Document ID: US 6066762 A

L6: Entry 27 of 56

File: USPT

May 23, 2000

US-PAT-NO: 6066762

DOCUMENT-IDENTIFIER: US 6066762 A

TITLE: Process for the production of carbonyl compound

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 28. Document ID: US 6051590 A

L6: Entry 28 of 56

File: USPT

Apr 18, 2000

US-PAT-NO: 6051590

DOCUMENT-IDENTIFIER: US 6051590 A

TITLE: Immunosuppressant tricyclic compounds

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWMC	Draw. De
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☐ 29. Document ID: US 6017455 A

L6: Entry 29 of 56

File: USPT

Jan 25, 2000

US-PAT-NO: 6017455

DOCUMENT-IDENTIFIER: US 6017455 A

TITLE: Porous membrane

Full	Title	Citation	Front	Review	Classification	Date	Reference	Search	Abstract	Claims	KWIC	Draw D
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☐ 30. Document ID: US 5783731 A

L6: Entry 30 of 56

File: USPT

Jul 21, 1998

US-PAT-NO: 5783731

DOCUMENT-IDENTIFIER: US 5783731 A

TITLE: Removal of carbonyl impurities from a carbonylation process stream

Full	Title	Citation	Front	Review	Classification	Date	Reference	Search	Abstract	Claims	KWIC	Draw D
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☐ 31. Document ID: US 5756836 A

L6: Entry 31 of 56

File: USPT

May 26, 1998

US-PAT-NO: 5756836

DOCUMENT-IDENTIFIER: US 5756836 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Process for producing highly purified acetic acid

Full	Title	Citation	Front	Review	Classification	Date	Reference	Regulation	Attachment	Claims	KWIC	Draw. D
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☐ 32. Document ID: US 5723660 A

L6: Entry 32 of 56

File: USPT

Mar 3, 1998

US-PAT-NO: 5723660

DOCUMENT-IDENTIFIER: US 5723660 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Process for producing acetic acid

Full	Title	Citation	Front	Review	Classification	Date	Reference	Regulation	Attachment	Claims	KWIC	Draw. D
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☐ 33. Document ID: US 5648531 A

L6: Entry 33 of 56

File: USPT

Jul 15, 1997

US-PAT-NO: 5648531

DOCUMENT-IDENTIFIER: US 5648531 A

TITLE: Process for producing acetic anhydride alone or acetic anhydride and acetic acid

Full	Title	Citation	Front	Review	Classification	Date	Reference	Regulation	Attachment	Claims	KWIC	Draw. D
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☐ 34. Document ID: US 5625095 A

L6: Entry 34 of 56

File: USPT

Apr 29, 1997

US-PAT-NO: 5625095

DOCUMENT-IDENTIFIER: US 5625095 A

TITLE: Process for producing high purity acetic acid

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 35. Document ID: US 5599976 A

L6: Entry 35 of 56

File: USPT

Feb 4, 1997

US-PAT-NO: 5599976

DOCUMENT-IDENTIFIER: US 5599976 A

TITLE: Recovery of acetic acid from dilute aqueous streams formed during a carbonylation process

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 36. Document ID: US 5488143 A

L6: Entry 36 of 56

File: USPT

Jan 30, 1996

US-PAT-NO: 5488143

DOCUMENT-IDENTIFIER: US 5488143 A

TITLE: Processes for the carbonylation of methanol to form acetic acid, methyl acetate and acetic anhydride

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 37. Document ID: US 5371286 A

L6: Entry 37 of 56

File: USPT

Dec 6, 1994

US-PAT-NO: 5371286

DOCUMENT-IDENTIFIER: US 5371286 A

TITLE: Removal of carbonyl impurities from a carbonylation process stream

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 38. Document ID: US 5362365 A

L6: Entry 38 of 56

File: USPT

Nov 8, 1994

US-PAT-NO: 5362365

DOCUMENT-IDENTIFIER: US 5362365 A

TITLE: Purification of acetic anhydride or acetic anhydride and acetic acid using ozone

Full	Title	Citation	Front	Review	Classification	Date	Reference	Supplemental	Attachments	Claims	KWIC	Draw D
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☐ 39. Document ID: US 5262556 A

L6: Entry 39 of 56

File: USPT

Nov 16, 1993

US-PAT-NO: 5262556

DOCUMENT-IDENTIFIER: US 5262556 A

TITLE: Process for the reaction of halogenated aromatics with electrophiles

Full	Title	Citation	Front	Review	Classification	Date	Reference	Supplemental	Attachments	Claims	KWIC	Draw D
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☐ 40. Document ID: US 5202481 A

L6: Entry 40 of 56

File: USPT

Apr 13, 1993

US-PAT-NO: 5202481

DOCUMENT-IDENTIFIER: US 5202481 A

TITLE: Purification of acetic acid produced by the low water carbonylation of methanol by treatment with ozone

Full	Title	Citation	Front	Review	Classification	Date	Reference	Supplemental	Attachments	Claims	KWIC	Draw D
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☐ 41. Document ID: US 5155266 A

L6: Entry 41 of 56

File: USPT

Oct 13, 1992

US-PAT-NO: 5155266

DOCUMENT-IDENTIFIER: US 5155266 A

TITLE: Purification of acetic acid with ozone in the presence of an oxidation catalyst

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 42. Document ID: US 5155265 A

L6: Entry 42 of 56

File: USPT

Oct 13, 1992

US-PAT-NO: 5155265

DOCUMENT-IDENTIFIER: US 5155265 A

TITLE: Purification of acetic acid with ozone followed by treatment with activated carbon and/or an ion-exchange resin

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 43. Document ID: US 5138093 A

L6: Entry 43 of 56

File: USPT

Aug 11, 1992

US-PAT-NO: 5138093

DOCUMENT-IDENTIFIER: US 5138093 A

TITLE: Process for preparing ethylidene diacetate

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 44. Document ID: US 4978778 A

L6: Entry 44 of 56

File: USPT

Dec 18, 1990

US-PAT-NO: 4978778

DOCUMENT-IDENTIFIER: US 4978778 A

TITLE: Process for producing vinyl acetate

Full	Title	Citation	Front	Review	Classification	Date	Reference	References	Attachments	Claims	KWIC	Draw D
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☐ 45. Document ID: US 4727200 A

L6: Entry 45 of 56

File: USPT

Feb 23, 1988

US-PAT-NO: 4727200

DOCUMENT-IDENTIFIER: US 4727200 A

TITLE: Alcohol homologation

Full	Title	Citation	Front	Review	Classification	Date	Reference	References	Attachments	Claims	KWIC	Draw D
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☐ 46. Document ID: US 4628121 A

L6: Entry 46 of 56

File: USPT

Dec 9, 1986

US-PAT-NO: 4628121

DOCUMENT-IDENTIFIER: US 4628121 A

TITLE: Preparation of acetaldehyde

Full	Title	Citation	Front	Review	Classification	Date	Reference	References	Attachments	Claims	KWIC	Draw D
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☐ 47. Document ID: US 4517377 A

L6: Entry 47 of 56

File: USPT

May 14, 1985

US-PAT-NO: 4517377

DOCUMENT-IDENTIFIER: US 4517377 A

TITLE: Process for producing vinyl acetate

Full	Title	Citation	Front	Review	Classification	Date	Reference	References	Attachments	Claims	KWIC	Draw D
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☐ 48. Document ID: US 4451582 A

L6: Entry 48 of 56

File: USPT

May 29, 1984

US-PAT-NO: 4451582

DOCUMENT-IDENTIFIER: US 4451582 A

TITLE: Preparation of insoluble, only slightly swellable polymers of basic vinyl-heterocyclic compounds

Full	Title	Citation	Front	Review	Classification	Date	Reference	References	Attachments	Claims	KWIC	Draw D
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☐ 49. Document ID: US 4399001 A

L6: Entry 49 of 56

File: USPT

Aug 16, 1983

US-PAT-NO: 4399001

DOCUMENT-IDENTIFIER: US 4399001 A

TITLE: Separating off organic iodine compounds from acetaldehyde-free carbonylation products of methanol, methyl acetate and dimethyl ether

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 50. Document ID: US 4383894 A

L6: Entry 50 of 56

File: USPT

May 17, 1983

US-PAT-NO: 4383894

DOCUMENT-IDENTIFIER: US 4383894 A

TITLE: Removal of organic iodine compounds from acetaldehyde

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 51. Document ID: US 4302611 A

L6: Entry 51 of 56

File: USPT

Nov 24, 1981

US-PAT-NO: 4302611

DOCUMENT-IDENTIFIER: US 4302611 A

TITLE: Preparation of acetaldehyde

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 52. Document ID: US 4269788 A

L6: Entry 52 of 56

File: USPT

May 26, 1981

US-PAT-NO: 4269788

DOCUMENT-IDENTIFIER: US 4269788 A

TITLE: Phenyl-cyclohexadiene-alkylamine derivatives

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 53. Document ID: US 4252748 A

L6: Entry 53 of 56

File: USPT

Feb 24, 1981

US-PAT-NO: 4252748

DOCUMENT-IDENTIFIER: US 4252748 A

TITLE: Recovery of acetone produced by carbonylation

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. D
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☐ 54. Document ID: US 4252741 A

L6: Entry 54 of 56

File: USPT

Feb 24, 1981

US-PAT-NO: 4252741

DOCUMENT-IDENTIFIER: US 4252741 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Carbonylation with Group VIII noble metal catalysts

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 55. Document ID: US 4201879 A

L6: Entry 55 of 56

File: USPT

May 6, 1980

US-PAT-NO: 4201879

DOCUMENT-IDENTIFIER: US 4201879 A

TITLE: Hydroquinones

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 56. Document ID: US 4153614 A

L6: Entry 56 of 56

File: USPT

May 8, 1979

US-PAT-NO: 4153614

DOCUMENT-IDENTIFIER: US 4153614 A

TITLE: Synthesis of (S) - (+) - 6-hydroxy-2,5,7,8-tetramethylchroman-2-methanol and intermediates therein

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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L5 and (562/\$ or 568/\$)

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